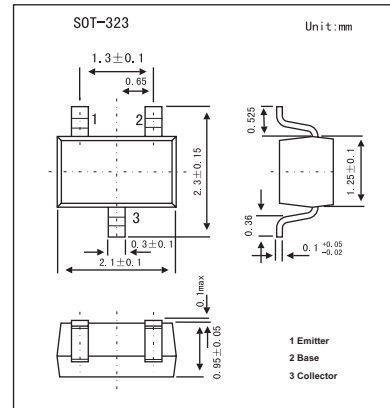


## Silicon NPN Epitaxial

## 2SC4249

## ■ Features

- High gain:  $G_{pe} = 24\text{dB}$  (typ.) ( $f = 200\text{ MHz}$ )
- Low noise:  $NF = 2.0\text{dB}$  (typ.) ( $f = 200\text{ MHz}$ )
- Excellent forward AGC characteristics

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	30	V
Collector-emitter voltage	$V_{CEO}$	30	V
Emitter-base voltage	$V_{EBO}$	3	V
Collector current	$I_C$	20	mA
Base current	$I_B$	10	mA
Collector power dissipation	$P_C$	100	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 25\text{ V}, I_E = 0$			100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 2\text{ V}, I_C = 0$			100	nA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{ mA}, I_B = 0$	30			V
DC current gain	$h_{FE}$	$V_{CE} = 10\text{ V}, I_C = 2\text{ mA}$	60	150	300	
Reverse transfer capacitance	$C_{re}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		0.35	0.5	pF
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 2\text{ mA}$	400	650		MHz
Power gain	$G_{pe}$	$V_{CC} = 12\text{ V}, V_{AGC} = 1.4\text{ V}, f = 200\text{ MHz}$	20	24	28	dB
Noise figure	NF			2.0	3.2	dB
AGC voltage	$V_{AGC}$	$V_{CC} = 12\text{ V}, G_R = 30\text{ dB}, f = 200\text{ MHz}$	3.6	4.4	5.1	V

## ■ Marking

Marking	HD
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